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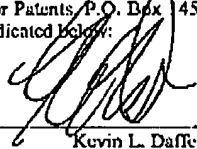
**PATENT**
(5468-05700/AUS9000502US1)

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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|---|---|
| In re Application of: | §    Group Art Unit: 2145 |
| Copeland et al. | §    Examiner: Mitra Kianersi |
| | § |
| Serial No. 09/740,531 | §    Atty. Dkt. No. AUS9000502US1 |
| | §         (5468-05700) |
| Filed: December 18, 2000 | § |

For:   DETECTING AND HANDLING
AFFINITY BREAKS IN
WEB APPLICATIONS

I hereby certify that this correspondence is being transmitted via facsimile or deposited with the U.S. Postal Service with sufficient postage as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313, on the date indicated below:

August 30, 2005
Date        Kevin L. Daffer

## REPLY BRIEF TO EXAMINER'S ANSWER

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313

Dear Sir:

This paper is submitted in reply to the Examiner's Answer mailed June 30, 2005. The Appellant respectfully requests that the Board consider this Reply Brief, which is presented before the expiration date of August 30, 2005.

The Examiner's Answer appears to contain new points of argument, which this Reply Brief addresses as permitted under 37 CFR § 1.193(b). In the Examiner's Answer, new points of argument were raised on pages 3-10 beginning with Section 10 "Grounds of Rejection" and ending with Section 11 "Response to Argument." The Examiner's answer addresses each rejected claim on a claim-by-claim basis on pages 3-7, and responds to various arguments presented by the Appellant on pages 7-10. This Reply Brief addresses the Examiner's answer in the order in which the claim rejections are levied.

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## Anticipatory Rejection of Independent Claims 1-3 and 5-7

With regard to the patentability of independent claim 1, the Examiner disagrees with the Appellant's contention that Barbara fails to disclose a client that sends a request to a server, where the request includes a numeric-valued generation ID. As will be described in more detail below, the new points of argument presented by the Examiner with regard to the patentability of independent claim 1, and all claims dependent therefrom, are hereby respectfully traversed.

In his answer, the Examiner suggests that Barbara discloses all limitations of independent claim 1, and more specifically, suggests that "Barbara discloses a server and a client which exchange invalidation reports with timestamps present in order to detect problems in cache coherency (affinity breaks)" (Examiner's Answer, page 3). The Examiner also suggests that the "naming of the server and client is not important since Barbara does not present a distributed application... [and that the] use of a timestamp makes the numerical value of the ID inherent." (Examiner's Answer, page 3). The Appellants disagree with the Examiner's contention that teaching for the above-mention limitation can be found, either explicitly or inherently, within Barbara.

In response to the Examiner's suggestion that "the naming of the server and client is not important", the Appellants contend that the limitation of a "client" sending a request to a "server" is only one distinction that separates the presently claimed case from the teachings of Barbara. As noted in the Appeal Brief and set forth in more detail below, Barbara fails to anticipate many other limitations set forth in the present claims, in addition to the particular direction in which a "request" is sent between a client and a server (i.e., from the client to the server). However, for the sake of argument, the designation of "client" and "server" will be discussed below as if they were interchangeable; the main point of distinction being the claimed functionality performed by each network component.

In his answer, the Examiner suggests that the "invalidation reports" of Barbara are equivalent to the presently claimed "requests", and that the use of "timestamps," as disclosed in column 8, lines 1-50 of Barbara, is equivalent to the presently claimed "generation ID" (see, Examiner's Answer, pages 3, 4, 5 and 8). The Appellants disagree, for at least the reasons set forth in more detail below.

Even if one were to accept the Examiner's assumptions (i.e., that "invalidation reports" = "requests" and "timestamps" = "generation IDs"), the teachings of Barbara would still fail to disclose all limitations of independent claim 1 when all words in the claim are rightfully considered. It is noted that

"all words in a claim must be considered when judging the patentability of that claim against the prior art." *In re Wilson* 424 F.2d. 1382 (CCPA 1970); MPEP 2143.03.

For example, Barbara fails to disclose that the timestamps (the alleged "generation ID") may be incremented by a server/client upon receiving the invalidation report (the alleged "request"). Instead of incrementing the timestamps upon receiving the invalidation report, Barbara specifically discloses that the "[a]t step 160, the next invalidation report broadcast by the server is received... At step 164, the client 20a determines whether the address of the datum is listed in the invalidation report" for each datum in the cache (step 162) to determine whether the data in the cache is invalid. *See,* Barbara, column 8, lines 18-30 and FIG. 4B. In other words, the first step performed by Barbara after receiving the invalidation report is to determine whether the address of the datum is listed in the invalidation report. Determining whether or not an address is listed in an invalidation report is <u>not</u> equivalent to incrementing a timestamp (or "generation ID") upon receiving an invalidation report (or "request"). Therefore, even if the timestamps of Barbara are considered equivalent to the presently claimed numeric-valued generation ID, **Barbara fails to disclose a numeric-valued generation ID, <u>which is incremented by the server upon receiving the request</u>,** as recited in independent claim 1.

In addition, Barbara fails to disclose that the timestamps (the alleged "generation ID") may be recorded by a server/client before being returned to the client/server. Instead, Barbara discloses only one instance in which a received GID (e.g., a data timestamp or report timestamp) may be recorded by a server/client. For example, Barbara discloses that when data stored within the client is determined to be valid, the timestamps (e.g., the previously recorded GIDs) associated with the stored data are changed to the timestamp of the report (e.g., the received GID). However, Appellants assert that although the timestamp of the report may be recorded by the server/client, Barbara fails to disclose that the timestamp of the report may be <u>returned</u> to the client/server after it is recorded. (*See,* Barbara, column 8, lines 43-50). Therefore, even if the timestamps of Barbara are considered equivalent to the presently claimed numeric-valued generation ID, **Barbara fails to a numeric-valued generation ID, <u>which is recorded by the server before being returned to the client</u>,** as recited in independent claim 1.

Furthermore, Barbara fails to disclose that the timestamps stored within the client (e.g., the previously recorded GIDs) may be compared with the timestamp of the report (e.g., the received GID) to detect an <u>affinity break</u> between a client and a server. Instead, Barbara discloses that the timestamps stored within the client are compared with the timestamp of the report to determine if the associated data within the client is <u>valid or invalid</u>. (*See,* Barbara, column 8, lines 31-50). **Determining data validity is**

not equivalent to detecting an affinity break between a client and a server. Although the associated data within the client may become invalid if the client breaks affinity with the server, affinity breaks are not the only cause of invalid data (*see*, e.g., Barbara, column 8, lines 37-42, which provide other causes for invalid data). Therefore, the presence of invalid data cannot be used, in itself, to detect affinity breaks between a client and a server. Since Barbara specifically discloses a method for determining data validity and fails to even mention affinity breaks, **Barbara cannot be relied upon to provide teaching or suggestion for detecting an affinity break between a client and a server, if the generation ID accompanying a request from a client (i.e., the received GID) differs from the generation ID recorded by the server (i.e., the previously recorded GID)**, as recited in present claim 1.

For at least the reasons set forth above, Barbara fails to anticipate not just one, but many of the limitations recited in present claim 1. Consequently, the Appellant's assert that the Examiner has failed to support a ground of anticipation, and respectfully requests that the Board of Patent Appeals overturn the Examiner's rejections of independent claim 1, and all claims dependent therefrom.

## Anticipatory Rejection of Independent Claims 10-12, 14-16 and 19-21

With regard to the patentability of independent claims 10 and 19, the Examiner disagrees with the Appellant's contention that Barbara fails to disclose a server that receives a request and a numeric-valued GID from a client, and compares the received GID against a previously recorded GID, wherein: (i) if the received GID matches the recorded GID, the server increments the recorded GID, and returns it to the client as a new GID, and (ii) if the received GID does not match the recorded GID, the server reports an affinity break between the client and the server. As will be explained in more detail below, the new points of argument presented by the Examiner with regard to the patentability of independent claims 10 and 19, and all claims dependent therefrom, are hereby respectfully traversed.

In his answer, the Examiner argues that the "comparison of GIDs is described in column 6 of Barbara" (Examiner's Answer, page 4). The Appellants disagree with the Examiner's contention that teaching for the presently claimed comparison step can be found within column 6, or anywhere else within Barbara.

In column 6, Barbara discloses an embodiment (referred to as "Broadcasting Addresses") in which an invalidation report containing a list of addresses is broadcast from a server to a plurality of clients. (*See*, Barbara, column 6, lines 3-56). Although Barbara discloses that the invalidation report "only

includes the list of addresses" and does "not include any timestamp information", Barbara suggests that the invalidation report may sometimes include "the time [at which] the last report was received by the client." The time at which the last report was received by the client (hereinafter referred to as the "time of the last report") may be used by the client to determine whether any reports have been missed (i.e., if any reports were sent from the server and not received by the client). (*See*, Barbara, column 6, lines 20-22, 32-40 and 57-60).

However, even if the "time of the last report" is included within the invalidation report of Barbara, the "time of the last report" is not used in a comparison step, as specifically set forth in present claims 10 and 19. For example, **Barbara fails to disclose that the "time of the last report" (the alleged "received GID") may be compared against a previously recorded GID, wherein if the received GID matches the recorded GID, the server increments the recorded GID, and returns it to the client as a new GID.** There is absolutely no teaching within Barbara for incrementing a previously recorded GID and returning it to a client/server as a new GID. There's even less teaching within Barbara for incrementing a previously recorded GID and returning it to a client/server as a new GID, if the "time of the last report" matches the previously recorded GID. Instead, Barbara discloses that, "if the client has not missed any reports… [then] for each datum in the cache 22, the invalidation report is checked to determine whether the address of that datum is in the report." If so, the datum is marked invalid; otherwise, the datum is presumed to be valid. (See, Barbara, column 6, lines 45-56 and FIG. 3B). Barbara does not explicitly disclose that the "time of the last report" is compared against a previously recorded GID.

However, even if a comparison step between a received GID and a previously recorded GID is considered to be inherent, the comparison step taught by Barbara is only used to determine the validity of data stored within the client. The comparison step taught by Barbara is not equivalent to (nor is it followed by) the presently claimed step of incrementing the previously recorded GID and returning it to the client as a new GID, if the received GID matches the recorded GID.

In addition, **Barbara fails to disclose the presently claimed step wherein an affinity break between the client and the server is reported, if the received GID does not match the recorded GID.** There is absolutely no teaching within Barbara for reporting an affinity break between a client and a server. There is even less teaching within Barbara for reporting an affinity break, if the "time of the last report" does not match a previously recorded GID. Instead, Barbara discloses that, "if the client determines that one or more reports have been missed at step 214, then every entry in the cache 22 is

invalidated at step 226." (Barbara, column 6, lines 41-44 and FIG. 3B). As noted above, determining data validity is not equivalent to detecting an affinity break between a client and a server. Therefore, even if a comparison step between a received GID and a previously recorded GID is considered to be inherent, the comparison step taught by Barbara is not used for detecting or reporting an affinity break between a client and a server.

For at least the reasons set forth above, Appellants traverse the statement in which the Examiner suggests that the presently claimed "comparison of GIDs is described in column 6 of Barbara". Appellants assert that teaching for the presently claimed comparison step cannot be found in column 6, or anywhere else, within the teachings of Barbara.

Finally, **Appellants strongly disagree with the Examiner's contention that "the functions described [in claims 10 and 19] are basic inherent steps of cache coherency, wherein duplicate records are prevented and data is invalidated upon detecting that a request has not been received."** (Examiner's Answer, page 4).

The limitations set forth in present claims 10 and 19 are not "inherent steps of cache coherency," as suggested by the Examiner. Appellants assert that the limitations set forth in present claims 10 and 19 are, instead, novel steps provided by the present invention for detecting and reporting an affinity break between a client and a server. As is known in the art, a cache (or a client) may lose "coherency" if data values stored within the cache are inconsistent with corresponding data values stored within main memory (or a server). It is also known in the art that an "affinity break" between a cache/client and another memory/server may be one reason for the cache/client to lose "coherency"; however, other reasons may exist (e.g., as evidenced in column 8, lines 38-40 of Barbara, a server may fail to issue an invalidation report to a client, causing the client to maintain erroneous data and lose cache coherency). Even though an "affinity break" may lead to "cache coherency" problems, the particular steps set forth in present claims 10 and 19 for detecting an affinity break are not inherently included within cache coherency systems. The present invention improves the maintenance of cache coherency by providing a technique for detecting and handling affinity breaks, which was previously lacking in the art.

Furthermore, the Appellants wish to point out that the Examiner has failed to provide sufficient evidence showing that the limitations set forth in present claims 10 and 19 are "inherent steps of cache coherency."

In order to prove inherency, the Examiner must provide rational or evidence showing that the limitations set forth in present claims 10 and 19 are "inherent steps of cache coherency." As set forth in MPEP 2112, the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). To establish inherency, the extrinsic evidence provided by the Examiner 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill in the art. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999).

For at least the reasons set forth above, Barbara fails to anticipate all limitations of independent claims 10 and 19. Consequently, the Appellant's assert that the Examiner has failed to support a ground of anticipation, and respectfully requests that the Board of Patent Appeals overturn the Examiner's rejections of independent claims 10 and 19, and all claims dependent therefrom.

## Obvious Rejection of Dependent Claims 4, 8-9, 13 and 17

With regard to the patentability of dependent claims 4, 8-9, 13 and 17, the Examiner disagrees with the Appellant's contention that even if Anuff were combined with Barbara (without sufficient motivation to do so) the combined teachings of Anuff and Barbara would still fail to teach or suggest all limitations of claims 1, 4, 8-9 and claims 10, 13, 17. As will be explained in more detail below, the new points of argument presented by the Examiner with regard to the patentability of pending claims 4, 8-9, 13 and 17 are hereby respectfully traversed.

In his answer, the Examiner suggests that the primary reference to Barbara provides teaching for all limitations of independent claims 1 and 10, and that the secondary reference to Anuff is only relied upon for teaching the use of a Java Virtual Machine equipped within a cache (as recited in dependent claim 4); the use of a cookie to return an affinity command (as recited in dependent claims 8 and 17); and the use of an object-oriented system (as recited in dependent claims 9 and 13). The Examiner also suggests that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Barbara with the teachings of Anuff. (*See*, Examiner's Answer, page 7).

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PAGE 7/8 * RCVD AT 8/30/2005 3:07:35 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-6/31 * DNIS:2738300 * CSID:512 703 1250 * DURATION (mm-ss):05-18

However, Appellants assert that even if the teachings of Anuff were combined with those of Barbara (without sufficient motivation to do so), the combined teachings of the cited art would still fail to disclose all limitations claims 1, 4, 8-9 and claims 10, 13, 17. In other words, because claims 4, 8 and 9 are dependent from claim 1, claims 4, 8 and 9 include the limitations recited therein, in addition to those recited in independent claim 1. The same can be said for independent claim 10 and dependent claims 13 and 17. As noted above, Barbara simply fails to provide teaching or suggestion for all limitations of independent claims 1 and 10. These limitations are also not taught or suggested by Anuff. Furthermore, Barbara and Anuff each fail to provide motivation that would enable one skilled in the art to combine or modify the teachings of Barbara and Anuff to provide all limitations of claims 1 and 10. Therefore, even if the teachings of Anuff were combined with those of Barbara, the combined teachings would fail to disclose all limitations of claims 1, 4, 8-9 and claims 10, 13, 17.

For at least the reasons set forth above, the cited art fails to teach, suggest, or provide motivation for the claimed limitations as recited in claims 1, 4, 8-9 and claims 10, 13, 17. As such, Appellant's reassert that the Examiner has failed to support a prima facie ground of obviousness, and respectfully requests that the Board of Patent Appeals overturn the Examiner's rejections of present claims 4, 8-9, 13 and 17.

## CONCLUSION

For at least the reasons noted above, it is believed that the claims are patentably distinct over the art of record. Appellants respectfully request that the Board of Patent Appeals overturn the Examiner's rejections.

Respectfully submitted,

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